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AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of

claims in the application. Please amend the claims as follows.

Listing of the Claims

1. (Currently Amended) A method comprising:

selecting a channel access parameter based on a probability of collision between two or more packets, wherein the selecting comprises:

calculating a throughput loss parameter based on the probability of collision;

dynamically adjusting a parameter of a contention window based on equilibrium between a time loss parameter related to a channel access backoff mechanism and a packet loss parameter related to a collision between two or more packets;

calculating an equilibrium parameter;

comparing the equilibrium parameter to a threshold; and

adjusting lower and upper limits of the contention window based on the comparison.

2. (Cancelled)

3. (Currently Amended) The method of claim [[2]] 1, wherein the calculating the throughput loss parameter comprises:

collecting statistics of a packet time to provide an average packet time;

estimating a collision probability parameter; and

estimating a network load based on the average packet time and the collision probability parameter.

4. (Original) The method of claim 3, comprising:

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    estimating the throughput loss parameter based on the network load.

5. (Currently Amended) The method of claim [[2]] 1, wherein selecting the channel access parameter comprises:

    dynamically adjusting a parameter of a contention window based on the probability of collision.

6. (Currently Amended) The method of claim 5, wherein dynamically adjusting the parameter comprises:

    adjusting a backoff parameter based on the a network load; and

    adjusting a size of the contention window based on the adjusted backoff parameter.

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Currently Amended) A method comprising:

    dynamically adjusting a parameter of a contention window based on a probability of collision between two or more packets; and

    selecting a channel access parameter based on the adjusted parameter of the contention window, wherein selecting the channel access parameter comprises:

    dynamically adjusting the parameter of the contention window based on an equilibrium between a first packet loss parameter related to a channel access backoff mechanism and a second packet loss parameter related to a collision between two or more packets;

    calculating an equilibrium parameter:

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comparing the equilibrium parameter to a threshold; and

adjusting the parameter of the contention window based on the comparison.

11. (Original) The method of claim 10, wherein selecting comprises:

calculating the probability of collisions based on an estimated throughput loss parameter which based on the collisions.

12. (Currently Amended) The method of claim 11, wherein the-calculating the probability of collisions comprises:

collecting statistics of a packet time to provide a packet time parameter;

calculating a collision probability parameter; and

estimating a network load based on the packet time parameter and the collision probability parameter.

13. (Original) The method of claim 12, comprising:

estimating the throughput loss parameter based on the network load.

14. (Currently Amended) The method of claim 10, wherein dynamically adjusting the parameter of a contention window based on a probability of collision comprises:

adjusting a backoff parameter based on the a network load; and

adjusting a size of the contention window based on the adjusted backoff parameter.

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Currently Amended) An apparatus comprising:

a channel access controller to select a channel access parameter based on a dynamically adjusted parameter of a contention window, wherein the parameter of the contention window is adjustable based on a probability of collision between two or more packets transmitted from at least two mobile units and wherein selecting the channel access parameter comprises:

dynamically adjusting the parameter of the contention window based on an equilibrium between a first packet loss parameter related to a channel access backoff mechanism and a second packet loss parameter related to a collision between two or more packets;

calculating an equilibrium parameter;

comparing the equilibrium parameter to a threshold; and

adjusting the parameter of the contention window based on the comparison.

19. (Original) The apparatus of claim 18, further comprising:

a calculator to calculate the probability of collisions based on an estimated throughput loss parameter which based on the collisions.

20. (Currently Amended) The apparatus of claim [[18]] 19, wherein the calculator comprises:

a statistic module to accumulate a packet time of a received packet to provide a packet time parameter and to calculate a collision probability parameter.

21. (Currently Amended) The apparatus of claim 20, wherein the calculator is able to estimate a network load base based on the packet time parameter and the collision probability parameter and to estimate the throughput loss parameter based on the network load.

22. (Currently Amended) The apparatus of claim 18, wherein channel access controller is able to adjust a backoff parameter based on the a network load and to adjust a size of the contention window based on the adjusted backoff parameter.

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23. (Cancelled)

24. (Original) The apparatus of claim 18, wherein channel access controller is able to operate according to a carrier sense multiple access with collision avoidance with exponential backoff module.

25. (Original) The apparatus of claim 18, wherein the channel access parameter is a time slot within the contention window.

26. (Currently Amended) An apparatus comprising:

an omni-directional antenna to provide a transmission of a channel access parameter to one or more mobile units; and

a channel access controller to select the channel access parameter based on a dynamically adjustment of a adjusted parameter of a contention window, wherein the parameter of the contention window is able to be adjusted adjustable based on a probability of collision between two or more packets transmitted from at least two mobile units of the one or more mobile units and wherein selecting the channel access parameter comprises:

dynamically adjusting the parameter of the contention window based on an equilibrium between a first packet loss parameter related to a channel access backoff mechanism and a second packet loss parameter related to a collision between two or more packets;

calculating an equilibrium parameter;

comparing the equilibrium parameter to a threshold; and

adjusting the parameter of the contention window based on the comparison.

27. (Original) The apparatus of claim 26, further comprising:

a calculator to calculate the probability of collision based on estimated throughput loss parameter based on the collision.

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28. (Currently Amended) The apparatus of claim [[26]] 27, wherein the calculator comprises:

a statistic module to accumulate a packet time of a received packet to provide a

packet time parameter.

29. (Currently Amended) The apparatus of claim 28, wherein the calculator is able to

estimate a network load base based on the packet time parameter and the collision

probability parameter and based on the network load to estimate the throughput loss

parameter based on the network load.

30. (Currently Amended) The apparatus of claim 26, wherein channel access controller is

able to adjust a backoff parameter based on the a network load and to adjust a size of the

contention window based on the adjusted backoff parameter.

31. (Cancelled)

32. (Original) The apparatus of claim 26, wherein channel access controller is able to operate

according to a carrier sense multiple access with collision avoidance with exponential

backoff module.

33. (Original) The apparatus of claim 26, wherein the channel access parameter is a time slot

within the contention window.

34. (Currently Amended) A wireless communication system comprising:

one or more mobile unit to receive a channel access parameter; and

an access point comprises comprising:

a channel access controller to select the channel access parameter based on a

dynamically adjusted parameter of a contention window, wherein[[,]] the parameter of

the contention window is able to be adjusted adjustable based on a probability of

collisions between two or more packets transmitted from at least two mobile units of

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the one or more mobile units and wherein selecting the channel access parameter comprises:

dynamically adjusting the parameter of the contention window based on an equilibrium between a first packet loss parameter related to a channel access backoff mechanism and a second packet loss parameter related to a collision between two or more packets;

calculating an equilibrium parameter;

comparing the equilibrium parameter to a threshold; and

adjusting the parameter of the contention window based on the comparison.

35. (Original) The wireless communication system of claim 34, wherein the access point comprises:

a calculator to calculate the probability of collisions based on estimated throughput loss parameter which based on the collisions.

36. (Original) The wireless communication system of claim 35, wherein the calculator comprises:

a statistic module to accumulate a packet time of a received packet to provide a packet time parameter and to calculate a collision probability parameter

37. (Original) The wireless communication system of claim 36, wherein the calculator is able to estimate a network load based on the packet time parameter and the collision probability parameter and to estimate the throughput loss parameter based on the network load.

38. (Original) The wireless communication system of claim 34, wherein the channel access controller comprises a carrier sense multiple access with collision avoidance with exponential backoff module.

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39. (Original) The wireless communication system of claim 34, wherein the channel access parameter is a time slot within the contention window.

40. (Currently Amended) An article comprising: a ~~storage~~ computer readable medium, having stored thereon instructions, that when executed by a computer, result in:

dynamically adjusting a parameter of a contention window based on probability of collisions between two or more packets; and

selecting a channel access parameter based on the adjusted parameter of the contention window wherein selecting the channel access parameter comprises:

dynamically adjusting the parameter of the contention window based on an equilibrium between a first packet loss parameter related to a channel access backoff mechanism and a second packet loss parameter related to a collision between two or more packets; and futher comprising:

calculating an equilibrium parameter;

comparing the equilibrium parameter to a threshold; and

adjusting the parameter of the contention window based on the comparison.

41. (Currently Amended) The article of claim 40 wherein the instructions when executed, result in:

calculating the probability of collisions based on an estimated throughput loss parameter which based on the collisions.

42. (Currently Amended) The article of claim [[40]] 41 wherein the instructions when executed, result in:

estimating the throughput loss parameter based on a network load.

43. (Currently Amended) The article of claim 40 wherein the instruction of dynamically adjusting the parameter of a contention window based on a probability of collision when executed, further result in:

adjusting a backoff parameter based on ~~the~~ a network load; and

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adjusting a size of the contention window based on the adjusted backoff parameter.

44. (Cancelled)